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PUBLIC HEALTH MONOGRAPH

Standardized Diagnostic Complement Fixation Method And Adaptation to Micro Test

A standardized complement fixation (CF) procedure, useful with all diagnostic CF antigens, has long been needed. Until such a procedure is established, CF results from one laboratory cannot be compared with those of another. Results in laboratory evaluations and standardization of reagents also can proceed much more easily and rapidly when a standardized procedure is used.

This monograph has two parts, both concerned with standardized CF procedure. In Part I a reasonably small volume CF technique, based largely on the work of Mayer, Osler, and other investigators, is discussed. This technique was in the developmental stage for several years at the Communicable Disease Center and was thoroughly evaluated by several independent laboratories. Having been developed by a task force in the Laboratory Branch of the CDC, the name "Laboratory Branch Complement Fixation" (LBCF) was chosen for the technique.

The standard diagnostic LBCF procedure is useful for bacterial, fungal, rickettsial, and viral antigens. This method uses the 50 percent hemolytic complement techniques, adheres to the theoretical principles set forth by previous workers, and serves well as a practical day-to-day working tool with all antigens tested. Certain of the pertinent experimental data accumulated during the several years of development of this procedure are presented. Detailed explanation of many features of the procedure is offered to help the reader understand the rationale behind the technique.

Adaptation of the standard LBCF procedure to a micro technique is described in Part II. The adaptation produces comparable results with minute volumes of reagents by using commercial equipment designed for micro CF techniques. Since there is an

eightfold savings in reagent volumes, the micro technique for performing complement fixation tests is particularly useful for large-scale serologic testing or when reagent volumes such as experimental antigens and sera are in short supply. It should also be mentioned that an approximate fourfold savings in man-hours is possible during large-scale serologic testing with no loss of accuracy.

Public Health Monograph No. 74

Standardized Diagnostic Complement Fixation Method and Adaptation to Micro Test. I. Laboratory Branch Complement Fixation Method. By Laboratory Branch Task Force. II. Adaptation of LBCF method to Micro Technique. By Helen L. Casey. Public Health Monograph No. 74 (PHS Publication No. 1228), 36 pages. U.S. Government Printing Office, Washington, D.C., 1965, price \$0.30.

The accompanying article summarizes the contents of Public Health Monograph No. 74. All the authors are with the Communicable Disease Center, Atlanta, Ga.

Readers wishing to read the data in full may purchase copies from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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